

## ***Interactive comment on “Determination of land surface heat fluxes over heterogeneous landscape of the Tibetan Plateau by using the MODIS and in-situ data” by Y. Ma et al.***

**Anonymous Referee #1**

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This paper presents a study on the determination of land surface heat fluxes over heterogeneous landscape of the Tibetan Plateau by using the MODIS and in-situ data. This paper is well organized and concise. The authors collect a large amount data at several stations over the Tibetan Plateau, a high and cold region, to validate their method.

Major concerns 1. This paper is more suitable for another EGU Journal, Hydrology and Earth System Sciences, than Atmospheric Chemistry and Physics. 2. In the Abstract and main text, it is claimed that authors propose a new method to estimate land surface heat fluxes over heterogeneous landscape. As the first author has published nearly ten

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papers in this field since 2002 (as cited in the paper), it is better to introduce how this method is different from previous ones and what are similar. 3. The comparison results, presented in Fig 5 and Tables 1 and 2, are much better than previous published results in this field. It is better to explain the advantage of this method. 4. The authors should have many data for validation. Why only four cases? 5. It is unclear to me how to get Ta1 to Tan in Eqs. (7)-(9). Observations or other estimates?

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